THE CHINESE UNIVERSITY OF HONG KONG

THE EARNINGS AND EMPLOYMENT PATTERN OF NEW IMMIGRANTS FROM CHINA

A DISSERTATION SUBMITTED TO

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ECONOMICS

BY

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Contents

ABSTRACT

The purpose of this study is to investigate the behaviour of new immigrants from China in Hong Kong's labour market. There are two aspects to be looked into. Firstly, since immigrants and residents are completely different categories of people in the sense that they receive different educations and are socialized under different social environments. Thus, we expect that the two groups would behave differently. Their behaviourial differences in Hong Kong's labour market are the first focus of this study. Secondly, characteristics of immigrants might vary when there are changes in immigration policy. The abandonment of the 'reach-base' policy in 1980 was an example of such kind of policy change. Before the abandonment, immigrants could come to Hong Kong if they wished --- but of course they had to overcome the physical barriers set by the Hong Kong authorities. We may describe them as 'self-selected' or 'economic' immigrants. After the abandonment of 'reach-base' policy, immigrants from China should be screened by the Chinese government. In most cases, those who applied for family reunion reason were allowed to immigrate to Hong Kong. Since the selective mechanism under the two different policies were very distinct, there may exist significant behaviourial difference between the two groups of immigrants. Our second focus is to measure and interpret such difference.

According to our estimation, the employment pattern of residents and that of immigrants were different

from each other mainly because they possessed different amounts of human capital. One of the interesting findings is that after taking into account the difference in the amount of human capital, the earnings or the potential 'earning capacity' of new immigrants were even higher than that of residents.

The other main finding of this study is related to the likelihood of immigrants to start their own business. It is always argued that immigrants by their nature usually are willing to take more risk for more return. However, it is totally unfounded in our sample. Factors such as availability of capital and the lack of location-specific human capital dominated immigrants' decision to be employee or employer. Nonetheless, this result is mainly distorted by the limitations of our data set. The major limitation is that we can only distinguish those immigrants arrived in Hong Kong for not more than five years during the time of conducting the census survey.

Lastly, behaviourial difference of immigrants, in general, became less distinct following the abandonment of the 'reach-base' policy. This observation conforms with our conjecture that selection mechanism determines the characteristics of immigrants.

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CHAPTER I: INTRODUCTION

1.1 The Background of the Inflow of New Immigrants in Late Seventies and Early Eighties

Hong Kong has experienced a rapid economic growth in the last two decades. One of the major reasons is that Hong Kong has had an abundant labour force and this has improved her export competitiveness among the newly industrialized economies. The source of such abundant labour was mainly from immigration, especially the immigration from China. From Table 1, we can see that in 1961 more than half of the population in Hong Kong were born in China, and in 1981 nearly forty percent of the population were so. This shows that immigrants from China have always been a major composition of Hong Kong's population.

In the period 1970-80, there were two changes in the immigration policy in Hong Kong regarding the immigrants from China. The first was made in 1974: before 1974, all immigrants from China who came across the border were allowed to stay in Hong Kong regardless of whether they were caught at the border or in the urban areas. This has long been the immigration policy towards immigrants from China. However, during 1974 there was a continuing increase in the number of immigrants entering Hong Kong from China. The Hong Kong government thought that it was the time to stem the inflow. This was why the practice of allowing all immigrants from China to stay was ended in 1974. From then on, those arrested on arrival were

repatriated. However, all others who evaded capture and "reached base", that is, gained a home with relatives or otherwise found proper accommodation, were permitted to stay. In the following three years, the implementation of such "reach base" policy brought no major difficulties.

However, in 1978, the open door policy in China increased the freedom of movement for the people as well as improved their knowledge about the rest of the world. The people in China then became more aware of the attractiveness of the economic conditions in Hong Kong and had a greater desire to migrate there. Consequently, the number of illegal immigrants crossing the border increased drastically. According to the immigration department, the number of illegal immigrants in 1979 was 192,766, while 102,826 of them successfully "reached base" and the rest were arrested upon entry (Table 2). The massive inflow of immigrants from China exerted a serious pressure on the colony's demand for housing, medical service, education and public transportation.

Against this background, the government decided to abolish the "reach base" policy. It was announced on October 23, 1980 that, in future, all illegal immigrants from China would all be sent back to China. The Hong Kong government and the Chinese authorities made arrangements for repatriation work to be coordinated. As a result, illegal immigration from China came under control and only legal immigration was allowed.

Table 1: Place of Birth of Population

(in % share)

Place of Birth	Year					
	1961	1966	1971	1976	1981	1986
Hong Kong	47.7	53.8	56.4	58.9	57.2	59.3
China	50.5	N.A.	41.6	38.6	39.6	37.1
Elsewhere	1.8	N.A.	2.0	2.5	3.2	3.6
Total	100	100	100	100	100	100

Source: Ho, Lam and Liu (1990)

Table 2: Illegal Immigration from China, 1970-1990

Year	Arrest Upon Entry	Evader[1]	Total
1970		3,416 (9.36)	3,416 (9.36)
1971		5,062 (13.87)	5,062 (13.87)
1972		12,958 (35.50)	12,958 (35.50)
1973		17,561 (48.11)	17,561 (48.11)
1974[2]	235 (0.64)	19,565 (53.60)	19,800 (54.25)
1975	1,150 (3.15)	7,100 (19.45)	8,250 (22.60)
1976	828 (2.27)	7,226 (19.80)	8,054 (22.07)
1977	1,815 (4.97)	6,546 (17.93)	8,361 (22.91)
1978	8,205 (22.48)	11,233 (30.78)	19,438 (53.25)
1979	89,940 (246.41)	102,826 (29.66)	192,766 (276.07)
1980[3]	82,125 (225.00)	67,964 (186.20)	150,089 (411.20)
1981	7,530 (20.63)	1,690 (4.63)	9,220 (25.26)
1982	8,676 (23.77)	2,484 (6.81)	11,160 (30.58)
1983	4,671 (12.80)	2,933 (8.04)	7,604 (20.83)
1984	9,653 (26.45)	3,090 (8.47)	12,743 (34.91)
1985	12,616 (34.56)	3,394 (9.30)	16,010 (43.86)
1986	16,832 (46.12)	3,707 (10.16)	20,539 (56.27)
1987	22,425 (61.44)	4,282 (11.73)	26,707 (73.17)
1988	13,581 (37.21)	7,227 (19.80)	20,808 (57.01)
1989	5,452 (14.94)	10,389 (28.46)	15,841 (43.40)
1990	9,592 (26.28)	18,234 (49.96)	27,826 (76.24)

1 Evaders are illegal immigrants caught beyond the first net of apprehension. Prior to 1974 no distinction between evaders and those arrested upon entry was made.

2 Implementation of the so-called "reach base policy".

3 Ending of the so-called "reach base policy" in October.

Brackets indicate average number per day.

Source: Ho, Lam and Liu (1990)

In the subsequent years, immigrants were only limited to those who were "legal immigrants", i.e. who were permitted by the Chinese authorities to leave their country. It was recorded by Immigration Department that the average number of legal immigrants per year from China was about 55,000 for the period 1980 to 1982 and about 28,000 in subsequent years.

It is worth noting that there are two differences between the immigrants before and after the abandonment of "reach base" policy. The first is that the volume of immigration is smaller after abolishing the "reach base" policy and hence the impact on Hong Kong residents would be smaller. The second is that the two groups of immigrants were selected under different criteria. For those who came before 1980, they were a self-selected group, that means their decision to immigrate depended solely on their own choice, while those who came legally after 1980 must have their applications to emigrate from China approved by the authorities there in order to come to Hong Kong. Therefore immigrants who arrived before the abandonment of "reach base" policy were purely self-selected, whereas those who arrived afterwards were selected by some additional criteria imposed by the Chinese authorities. Since the immigration of self-selected immigrants were primarily driven by economic factors, we may called them as "economic immigrants". On the other hand, since legal immigrants arrived after 1980 were largely related to family reunion, we may called them as

"legal family reunion immigrants".

1.2 Objectives of this Study

The purpose of this study is to investigate the behaviour of new immigrants from China in Hong Kong's labour market. There are two aspects to be looked into. Firstly, immigrants and residents are completely different categories of people in the sense that they receive different educations and are socialized under different social environments. Thus, we expect that the two groups would behave differently. Their behaviourial differences in Hong Kong's labour market are the first focus of this study. Secondly, characteristics of immigrants might vary when there are changes in immigration policy. The abandonment of the "reach-base" policy in 1980 was an example of such kind of policy change. Before the abandonment, immigrants could come to Hong Kong if they wished --- but of course they had to overcome the physical barriers set by the Hong Kong authorities. We may describe them as "self-selected" or "economic" immigrants. After the abandonment of "reach-base" policy, immigrants from China should be screened by the Chinese government. In most cases, those who applied for family reunion reason were allowed to immigrate to Hong Kong. Since the selective mechanism under the two different policies were very distinct, there may exist significant behaviourial difference between the two groups of immigrants. Our second focus is to measure and interpret such difference.

According to our estimation, the employment pattern of residents and that of immigrants were different from each other mainly because they possessed different amounts of human capital. One of the interesting findings is that after taking into account the difference in the amount of human capital, the earnings or the potential "earning capacity" of new immigrants were even higher than that of residents.

In particulars, these two aspects are explored by using the following framework: (1) To identify who are the immigrants and compare their demographic characteristics with the residents. Comparisons between the two groups of immigrants arriving before and after the abandonment of the "reach base" policy are also made. (2) To study the determinants of earnings of immigrants and residents and to see how personal characteristics act differently on earnings of the two groups. Moreover, the earnings of the two groups of immigrants are also compared. (3) The determinants of labour force participation rate and unemployment rate are studied to see whether being a new immigrant makes their labour force participation and unemployment behaviour different from that of a resident. (4) To study the employment pattern of new immigrants. It is always claimed that immigrants are more willing to take risk and therefore have higher propensity to be entrepreneurs. We wish to see if they have higher tendency to start their own business than residents in their early

years arrived in Hong Kong.

1.3 Data

The 1981 census and 1986 by-census datasets are utilized in this study. The former is a 20% sample while the latter is a 14.5% sample of the population. The 1981 dataset contains a total of 837,045 records of residents and 57,469 records of immigrants. The 1986 dataset contains 727,856 records of residents and 19,578 records of immigrants. The datasets contain individual information on basic demographic characteristics such as age, sex, marital status, place of birth and level of education, as well as economic variables such as activity status, industry, occupation, hours of work and earnings. The two datasets also contain information of an individual's address five years ago, which enables researchers to identify the immigrants who arrived within the recent five years. As mentioned in Section 1.1, the "reach-base" policy was introduced in 1974 and abolished on October 23, 1980. Therefore, the 1981 census dataset captures most of the group of immigrants who were economic immigrants, whereas the 1986 by-census dataset captures the legal family-reunion immigrants. These two datasets are suitable for comparing the two groups of immigrants. Supplementary information are obtained from related works of other scholars.

1.4 Methodology

Tabulations, averaging and frequency distributions are the basic tools used to analyze the differences between residents and immigrants. For the study of earnings, cross-sectional estimates of earnings functions are performed by running linear regression equations using modified versions of the Mincer earnings function [Mincer 1974]. The study of labour participation rates, unemployment rates and employment patterns utilize logistic estimation methods. Interpretations of the empirical results are mainly based on the theory of human capital [Becker 1964] and neoclassical models of labour market behaviours. This paper concentrates on presenting empirical findings rather than theoretical exploration.

1.5 Demographic Characteristics of New Immigrants and Residents in Hong Kong

In this study, sub-samples were selected from the datasets for analysis. The individuals selected were within the age group of "15-65" inclusive. There were 571,174 residents and 45,038 immigrants selected for the dataset in 1981, while there were 507,706 residents and 13,899 immigrants selected for that in 1986. The characteristics of new immigrants were quite different from that of residents. Although residents in the respective years displayed similar demographic characteristics, the new immigrants in the two census years were quite distinct. In what follows, we will compare the characteristics of

immigrants with residents as well as compare that of the immigrants in 1981 with those in 1986.

1.5.1 Age-sex Distribution

The age-sex distributions of residents and immigrants in 1981 and 1986 are shown in Figure 1 and Figure 2, respectively. The age distributions of residents in respective years are apparently the same. For residents, the male to female ratios in 1981 and in 1986 are 1.047 and 1.069 respectively. However, the average age in 1986 is moderately higher than that in 1981.

The age distribution of immigrants in 1986 is quite different from that in 1981. Firstly, the age distribution in 1986 is more even than in 1981. Secondly, male to female ratio or sex ratio in 1986 is 0.82, which is much lower than the 1981 ratio of 1.38. Lastly, the proportion of potential labourers (people aged between 15 and 59) in 1986 were much lower than that in 1981. The difference in sex ratio was mainly due to the change in the immigration policy. Before the abolition of the "reach-base" policy, men were more likely to be successful in "reaching base", due to their better physical strength.

The age distribution of immigrants were quite different from that of residents. In 1981, a significant proportion of immigrants were potential labourers. About 77% of the immigrants were potential labourers, but only 64% of the residents were so. In addition, immigrants were more likely to be in their prime ages. About 48% of the

immigrants were in the "15-34" age bracket, but only 39% of the residents were in this bracket. This shows that immigrants are more likely to be in labour force. Moreover, the sex ratio of immigrants is 1.38, which is significantly higher than that of residents. In 1986, a higher proportion (25.6%) of the immigrants were in the "0-14" age bracket, but only 23.3% of residents was in this age bracket. In 1986, the share of potential labourers in immigrants were higher than that of residents, but the difference was not as significant as it was in 1981. The sex ratio for immigrants in 1986 was 0.82, lower than the 1.069 for residents. However, the comparatively lower sex ratio for immigrants only existed in the "20-80+" age bracket, whereas that in the "0-19" age bracket was greater than one.

Figure 1a

Figure 1b

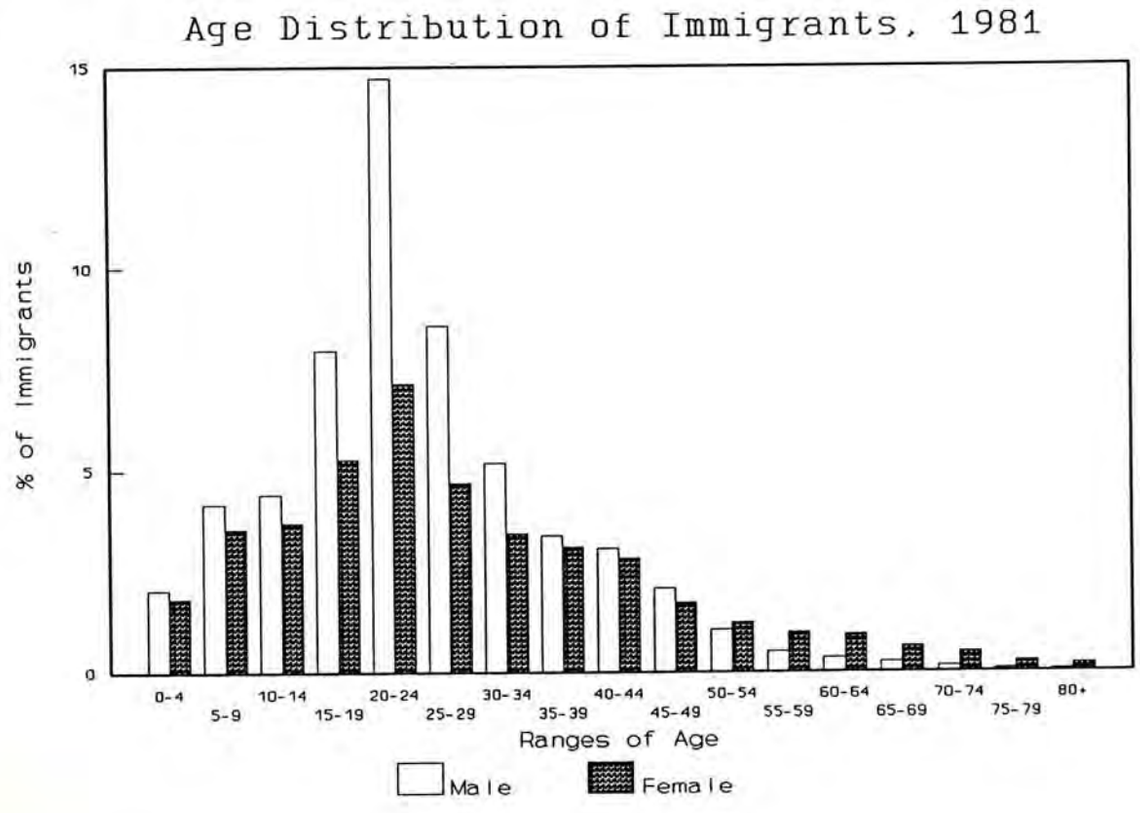

Figure 2a

Figure 2b

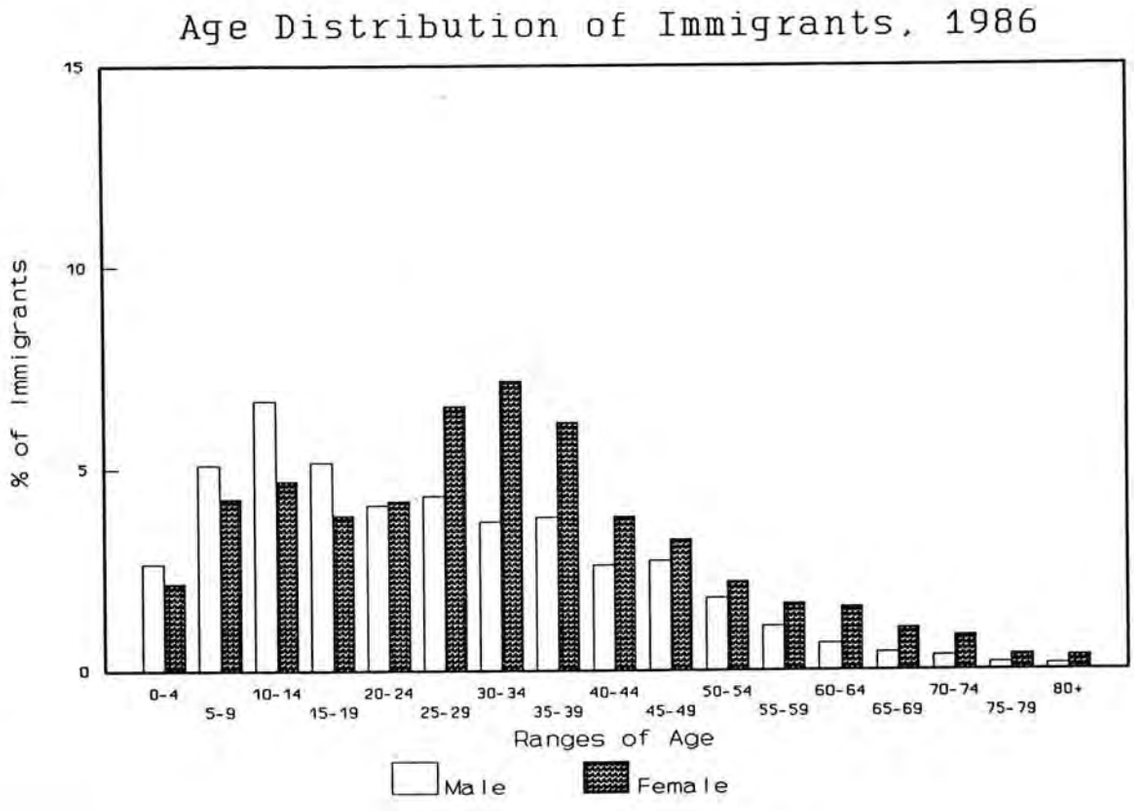

Table 3: Marital Status of Population, by Age, by Sex, 1981

Residents	Male				Female			
	Single	Married	Widowed	Divorced	Single	Married	Widowed	Divorced
20-24	89.36	10.51	0.02	0.11	72.00	27.69	0.09	0.22
25-29	56.61	42.82	0.12	0.45	30.17	69.07	0.25	0.51
30-34	27.08	72.07	0.16	0.70	10.64	87.86	0.68	0.83

Immigrants	Male				Female			
	Single	Married	Widowed	Divorced	Single	Married	Widowed	Divorced
20-24	90.38	9.51	0.05	0.06	68.21	31.62	0.12	0.05
25-29	62.22	37.42	0.02	0.35	28.65	70.73	0.41	0.22
30-34	24.25	74.67	0.30	0.77	8.69	90.05	0.91	0.35

Table 4: Marital Status of Population, by Age, by Sex, 1986

Residents	Male				Female			
	Single	Married	Widowed	Divorced	Single	Married	Widowed	Divorced
20-24	92.53	7.36	0.01	0.11	79.61	20.15	0.04	0.20
25-29	62.38	37.03	0.06	0.52	37.44	61.78	0.17	0.60
30-34	29.60	69.14	0.18	1.09	14.10	83.93	0.64	1.32

Immigrants	Male				Female			
	Single	Married	Widowed	Divorced	Single	Married	Widowed	Divorced
20-24	85.11	14.89	0.00	0.00	57.09	42.79	0.00	0.12
25-29	46.06	53.00	0.12	0.82	14.54	84.76	0.23	0.47
30-34	20.00	78.34	0.41	1.24	4.34	94.39	0.50	0.78

1.5.2 Marital Status

In the age bracket "20-34", we find that there were fewer married residents in 1986 than in 1981 (Table 3). This indicates a trend of increasing late marriages overtime.

However, there were more married immigrants in 1986. It was because single people were more likely to self-select to immigrate as their opportunity cost of immigration were lower than married people. After the abolition of the "reach-base" policy, immigrants were selected by the Chinese authorities. There were more married females selected under the criteria applied by the Chinese authorities.

Since the opportunity cost of immigration was higher for economic immigrants in 1981, their proportion of married people was much less than that of residents. In 1986, immigrants were selected by the Chinese authorities and most of the applications were for family reunion. Therefore, their proportion of married people were higher than that of residents.

Table 5: Education Attainment of Population, by Sex, 1981

	Residents		Immigrants	
	Male	Female	Male	Female
No Schooling	17832	53457	1028	2560
Primary	106915	92344	8804	5842
Secondary	148154	114715	15231	8528
Post-secondary	24393	13364	1899	1146
Total	297294	273880	26962	18076

(%)	Residents		Immigrants	
	Male	Female	Male	Female
No Schooling	6.00	19.52	3.81	14.16
Primary	35.96	33.72	32.65	32.32
Secondary	49.83	41.89	56.49	47.18
Post-secondary	8.21	4.88	7.04	6.34
Total	100.00	100.00	100.00	100.00

Table 6: Education Attainment of Population, by Sex, 1986

	Residents		Immigrants	
	Male	Female	Male	Female
No Schooling	14981	37655	227	1025
Primary	80034	70646	1282	2250
Secondary	143846	114237	3603	4187
Post-secondary	28278	18029	803	522
Total	267139	240567	5915	7984

(%)	Residents		Immigrants	
	Male	Female	Male	Female
No Schooling	5.61	15.65	3.84	12.84
Primary	29.96	29.37	21.67	28.18
Secondary	53.85	47.49	60.91	52.44
Post-secondary	10.59	7.49	13.58	6.54
Total	100.00	100.00	100.00	100.00

1.5.3 Education Level

The literacy rate of residents was higher in 1986 than in 1981 (see Table 5 and Table 6), and especially among women. The proportion of female residents with no schooling was reduced from 19.5% in 1981 to 15.6% in 1986, while that with secondary school education was increased from 41.9% to 47.5%. However, the literacy rate of women was consistently lower than that of men. It was because women spend less time in the labour market than men, so the optimal amount of market oriented human capital investment for women should be lower than men.

For immigrants, their education levels in the respective years were quite similar, but the literacy rate of immigrants in 1986 were slightly higher than that in 1981.

Immigrants on average had higher education level than residents. The proportion of female immigrants with post-secondary education was higher than that of female residents in 1981, while that of male immigrants were higher than that of male residents in 1986.

1.5.4 Occupation and Industry

Due to the fact that the Hong Kong economy was restructuring, and at the same time, the education level of Hong Kong people were improving, it was evident that the employment share of the manufacturing sector was diminishing. Table 7 and Table 8 list the occupation of the people in 1981 and 1986 respectively. Table 9 and

Table 10 list the industry that the people were engaged in the respective years. The proportion of residents whose occupation was "Product & Related Workers" was reduced and that of "Professionals/ Managers", "Clerical" and "Sales", was increased in 1986. The proportion of residents engaged in the "Manufacturing" sector was decreased while that in the "Finance" and "Service" sectors were increased.

For immigrants, the pattern was quite similar to that of residents. The proportion of immigrants involved in the "Finance" and "Service" sectors were increased. However, the proportion of male immigrants involved in the manufacturing sector was slightly increased.

Comparing immigrants with residents, more residents held occupations of professional or managerial. Moreover, more immigrants were involved in the industry related to physical labour such as "Construction" sector. Such difference was especially significant in 1981. In 1981, the proportion of immigrants in the "Construction" industry was much higher than that of residents.

Table 7: Occupation of Population, by Sex, 1981

(%)	Residents		Immigrants	
	Male	Female	Male	Female
Prof./Tech.& Related Workers /Adm.& Managerial Workers	9.35	7.61	3.23	2.36
Clerical & Rel. Workers	9.89	20.60	2.97	3.81
Sales Workers	12.15	8.61	6.44	3.59
Service Workers	15.58	14.23	14.85	9.74
Agr. Animal husbandry /Forestry Workers/Fishman	1.63	1.23	0.90	0.55
Product & Rel. Workers /Transport Equip. Operator	51.38	47.72	71.61	79.96
Total (Excluding N.A.)	100.00	100.00	100.00	100.00

Table 8: Occupation of Population, by Sex, 1986

(%)	Residents		Immigrants	
	Male	Female	Male	Female
Prof./Tech.& Related Workers /Adm.& Managerial Workers	12.04	11.63	9.53	4.06
Clerical & Rel. Workers	10.16	25.23	6.04	5.69
Sales Workers	13.17	10.42	10.39	4.77
Service Workers	17.11	14.08	15.85	14.70
Agr. Animal husbandry /Forestry Workers/Fishman	2.00	1.76	1.73	1.97
Product & Rel. Workers /Transport Equip. Operator	45.53	36.87	56.47	68.81
Total (Excluding N.A.)	100.00	100.00	100.00	100.00

Table 9: Industry of Population, by Sex, 1981

(%)	Residents		Immigrants	
	Male	Female	Male	Female
Agriculture/Fishing /Mining/Quarrying	1.51	1.20	0.92	0.55
Manufacturing	34.82	52.51	45.73	81.12
Electricity/Gas/Water	0.93	0.20	0.41	0.03
Construction	10.55	1.63	24.95	1.19
Wholesale/Retail	21.01	17.90	18.57	10.54
Transport/Storage/Communication	11.34	2.72	3.98	0.59
Financing/Insurance	4.80	6.20	0.95	0.70
Service	15.05	17.64	4.49	5.29
Total (Excluding N.A.)	100.00	100.00	100.00	100.00

Table 10: Industry of Population, by Sex, 1986

(%)	Residents		Immigrants	
	Male	Female	Male	Female
Agriculture/Fishing /Mining/Quarrying	1.84	1.71	1.55	1.86
Manufacturing	31.07	44.64	50.10	71.85
Electricity/Gas/Water	0.98	0.20	0.42	0.04
Construction	9.79	1.06	8.32	0.29
Wholesale/Retail	23.37	21.16	25.53	16.16
Transport/Storage/Communication	11.48	3.13	4.04	0.85
Financing/Insurance	5.94	7.14	2.47	0.99
Service	15.54	20.95	7.58	7.97
Not Applicable				
Total (Excluding N.A.)	100.00	100.00	100.00	100.00

CHAPTER II: THE EARNINGS DIFFERENTIAL BETWEEN RESIDENTS AND NEW IMMIGRANTS IN HONG KONG

2.1 The Mean Differential in Earnings Between Residents and New Immigrants

Systematic earnings differential between residents and new immigrants was observed in both 1981 and 1986. It is found that earnings of residents were consistently higher than those of immigrants. To study the phenomenon, a sample composed of residents and immigrants was selected for each year concerned. Table 10 and Table 11 shows the logarithmic value of the main employment earnings[1] of residents and immigrants in the respective years. The differential in terms of Log(main earning) can be interpreted as the percentage differential in main earnings. In 1981, the earnings of male residents were on average 30.3% higher than those of male immigrants and the earnings of female residents was on average 20.3% higher than that of female immigrants. In 1986, the earnings of male residents were on average 29.8% higher than those of male immigrants and the earnings of female residents were on average 29.5% higher those of female immigrants.

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[1] Main employment earnings refer to the income from one's main employment. It should exclude income from secondary employment, interest, rent, social welfare payment, old age allowance etc.

Table 10: The Main Employment Earnings of Residents and New Immigrants in 1981

Residents:	Log(Main earnings)		
	Mean	S.D.	Obs
Male	7.4965	0.6132	239653
Female	7.0354	0.6631	132506

Immigrants:	Log(Main earnings)		
	Mean	S.D.	Obs
Male	7.1933	0.4112	24902
Female	6.8317	0.4507	12479

Table 11: The Main Employment Earnings of Residents and New Immigrants in 1986

Residents:	Log(Main earnings)		
	Mean	S.D.	Obs
Male	8.0240	0.6443	214297
Female	7.6528	0.6801	121235

Immigrants:	Log(Main earnings)		
	Mean	S.D.	Obs
Male	7.7263	0.5168	4791
Female	7.3575	0.5150	4787

The theory of human capital suggests that differential in earnings is originated from the differential in the quantity of human capital. Therefore, an individual's earnings should be closely related to his level of education and his on-the-job investment in human capital (which is related to his working experience). Moreover, his earnings also depend on both wage rate and hours of work. Thus, his marital status determines his allocation of time to market production and household production, and therefore also determines his earnings. Lastly, due to the fact that women's participation in labour force is on average less active and less continuous than men's because of maternity, their decision on investment in human capital is different from men's. As a result, earnings function of men and women should be estimated separately, with the years of schooling, working experience and marital status as explanatory variables.

In the context of the theory of human capital, the earnings differential between residents and immigrants was originated from systematic differences in their stock of human capital. For immigrants, the imperfect transferability of human capital across locations and the lack of domestic-specific human capital should be the major causes of the difference in earnings. In the following sections, we will explore the source of the differences by examining the estimates of different specifications of earnings function.

2.2 The Estimation of Earnings Functions

To study the earnings differential between residents and immigrants, sub-samples were selected from the original 20%-sample in 1981 and the 14.5%-sample in 1986. The individuals selected were within the "15-65" age bracket, and they should possess main employment earnings. There were 372,159 residents and 37,381 immigrants selected from the 1981 dataset, while there were 335,532 residents and 9,578 immigrants selected from the 1986 dataset. Different specifications of earnings function were estimated with these samples.

2.2.1 Specification 1

The basic explanatory variables in estimating the earnings function are the year of schooling, working experience and marital status. Table 12 shows the definition of the variables used.

The cross-sectional estimation will be based on the following specification:

$$\begin{aligned} LOGMEARN_i = {} & a_0+a_1(SCH_i)+a_2(SCH2_i)+a_3(WORKYR_i)+a_4(WORKYR2_i)+ \\ & a_5(MARRIED_i)+a_6(WIDOWED_i)+a_7(DIVORCED_i)+a_8(IMMIG_i)+\epsilon_i \end{aligned} \quad .....(1)$$

The main earnings of an individual i depends on his year of schooling attained, working experience, marital status and whether he was a new immigrant. The results are listed from Table 13 to Table 16.

Table 12: The Definition of the variables used in the estimation of earnings function

Variable	Definition
LOGMEARN	The logarithm of main employment earnings.
SCH	Year of schooling*.
SCH2	The square of year of schooling.
WORKYR	Computed working experience. It equals the individual's age minus his year of schooling.
WORKYR2	The square of computed working experience.
MARRIED	Dummy variable. It equals 1 when one's marital status is "married", otherwise it equals 0.
WIDOWED	Dummy variable. It equals 1 when one's marital status is "divorced", otherwise it equals 0.
DIVORCED	Dummy variable. It equals 1 when one's marital status is "widowed", otherwise it equals 0.
IMMIG	Dummy variable. It equals 1 when one is a new immigrant (arrived for no more than 5 years), otherwise it equals 0.

* The year of schooling was defined in the appendix
Note: The default of the marital status dummy variables is the marital status "single".
The variable IMMIG is not applicable to specification 3.

Table 13: Earnings Function, Specification 1, Male, 1981

Summary Statistics

	Residents		Immigrants	
Variable	Mean	Std Dev	Mean	Std Dev
LOGMEARN	7.4966	0.6132	7.1933	0.4113
SCH	7.9287	3.7613	8.2121	3.3522
SCH2	77.0122	64.7567	78.6757	60.0984
WORKYR	22.1274	14.7615	13.8590	9.6642
WORKYR2	707.52	789.75	285.46	404.88
MARRIED	0.60096	0.48970	0.38965	0.48768
WIDOWED	0.01056	0.10220	0.00281	0.05295
DIVORCED	0.00668	0.08144	0.00349	0.05901
IMMIG	0	0	1	0
Obs =	239653		24902	

Estimation Results

Variable	Estimate	Std Err	T-Stat
INTERCEP	6.814018	0.00556723	1223.951
SCH	-0.027336	0.00099224	-27.550
SCH2	0.005224	0.00005381	97.082
WORKYR	0.039709	0.00030656	129.531
WORKYR2	-0.000735	0.00000535	-137.383
MARRIED	0.227226	0.00278984	81.448
WIDOW	0.073851	0.01046558	7.057
DIVORCED	0.112519	0.01263535	8.905
IMMIG	-0.236953	0.00344298	-68.822
Adj R-sq	0.2911		

Table 14: Earnings Function, Specification 1, Female, 1981

Summary Statistics

	Residents		Immigrants	
Variable	Mean	Std Dev	Mean	Std Dev
LOGMEARN	7.0354	0.6631	6.8318	0.4508
SCH	7.2616	4.3159	7.5007	3.8812
SCH2	71.3574	63.2058	71.3228	60.5416
WORKYR	19.3591	16.3721	16.2015	12.9407
WORKYR2	642.82	905.31	429.94	654.57
MARRIED	0.48724	0.49984	0.48938	0.49991
WIDOWED	0.04730	0.21227	0.02180	0.14602
DIVORCED	0.00832	0.09086	0.00417	0.06442
IMMIG	0	0	1	0
Obs =	132506		12479	

Estimation Results

Variable	Estimate	Std Err	T-Stat
INTERCEP	6.497819	0.00776736	836.554
SCH	-0.005158	0.00142234	-3.626
SCH2	0.005875	0.00008212	71.542
WORKYR	0.021362	0.00044462	48.046
WORKYR2	-0.00034	0.00000747	-45.515
MARRIED	-0.079578	0.00424371	-18.752
WIDOW	-0.028507	0.0086392	-3.300
DIVORCED	0.130398	0.01685236	7.738
IMMIG	-0.207222	0.00523412	-39.591
Adj R-sq	0.2662		

Table 15: Earnings Function, Specification 1, Male, 1986

Summary Statistics

	Residents		Immigrants	
Variable	Mean	Std Dev	Mean	Std Dev
LOGMEARN	8.0240	0.6443	7.7264	0.5169
SCH	8.5431	3.7809	9.4671	3.6786
SCH2	87.2792	67.2943	103.1554	71.8939
WORKYR	21.5646	14.1910	18.7598	11.8550
WORKYR2	666.42	763.04	492.44	562.10
MARRIED	0.60741	0.48833	0.65122	0.47663
WIDOWED	0.00903	0.09459	0.00480	0.06913
DIVORCED	0.00975	0.09825	0.00626	0.07889
IMMIG	0	0	1	0
Obs =	214297		4791	

Estimation Results

Variable	Estimate	Std Err	T-Stat
INTERCEP	7.16007	0.00678226	1055.706
SCH	-0.028024	0.00117949	-23.759
SCH2	0.006038	0.00006164	97.956
WORKYR	0.043384	0.00036244	119.700
WORKYR2	-0.00076	0.00000627	-121.212
MARRIED	0.238462	0.00323117	73.801
WIDOW	0.125036	0.01260464	9.920
DIVORCED	0.12758	0.01193464	10.690
IMMIG	-0.387574	0.00778334	-49.795
Adj R-sq	0.3155		

Table 16: Earnings Function, Specification 1, Female, 1986

Summary Statistics

	Residents		Immigrants	
Variable	Mean	Std Dev	Mean	Std Dev
LOGMEARN	7.6528	0.6801	7.3576	0.5151
SCH	8.3897	4.2141	7.6942	4.0233
SCH2	88.1452	66.0820	75.3839	62.3198
WORKYR	18.4688	14.9936	21.6703	13.0599
WORKYR2	565.90	815.11	640.12	710.06
MARRIED	0.51629	0.49974	0.75935	0.42752
WIDOWED	0.03625	0.18692	0.02298	0.14985
DIVORCED	0.01270	0.11199	0.00982	0.09861
IMMIG	0	0	1	0
Obs =	121235		4787	

Estimation

Variable	Estimate	Std Err	T-Stat
INTERCEP	6.830242	0.00930928	733.702
SCH	-0.008939	0.0016382	-5.457
SCH2	0.006689	0.00009002	74.306
WORKYR	0.031457	0.00047822	65.779
WORKYR2	-0.000482	0.00000832	-57.933
MARRIED	-0.006326	0.00450106	-1.405
WIDOW	0.039312	0.01026638	3.829
DIVORCED	0.120162	0.01488049	8.075
IMMIG	-0.278625	0.00842089	-33.087
Adj R-sq	0.295		

The results are standard in terms of the positive returns to schooling, the inverted U-shape experience profiles and the signs of the coefficients of the marital status dummy variables. Moreover, the experience profile of women was flatter than men. These results can be well-explained by the theory of human capital and family economics. In the followings, we will focus on the effect of the identity of being a new immigrant.

The estimation of specification 1 is simply comparing the earnings of residents and immigrants given that the level of education, working experience and marital status are controlled. The coefficient of IMMIG measures the differential of earnings between residents and immigrants, when other things being the same. Referring to Table 13 to Table 16, the coefficients of IMMIG are negative in all of the four samples. In 1981, the earnings of male immigrants were 23.7% lower than those of male residents and the earnings of female immigrants were 20.7% lower than those of female residents. In 1986, the earnings of male immigrants were 38.8% lower than those of male residents while the earnings of female immigrants were 27.9% lower than those of female residents. These results can be largely explained by immigrants' imperfect transferability of human capital across locations.

The magnitude of the coefficients of IMMIG for men are larger than that for women in 1981 and 1986. This indicates that the residents-immigrants earnings differentials are larger for men than for women. This

suggests that the problem of imperfect transferability of human capital for female immigrants was less serious than for male. It can be explained by the fact that female immigrants were more likely to be employed as "Production and Related Workers" in the "Manufacturing" industry (see Table 7 to Table 10). Such kind of manual work requires less location-specific skills. For example, a new immigrant working as a factory worker encounters less language difficulties than one working as a sales worker. This explains why the residents-immigrants earnings differential of women was smaller than that of men.

Comparing the coefficients of IMMIG of the samples in 1981 with those in 1986, we can find that the residents-immigrants earnings differential in 1986 was larger than that in 1981, for both sexes. The larger differential in 1986 might be due to that the problem of imperfect transferability of human capital was more serious in 1986. However, the more reasonable explanation to this was that new immigrants in the 1981 samples were economic immigrants while those in 1986 were not. This brought systematic but unobservable difference in the quality of these two categories of immigrants. For example, economic immigrants might be more hard working than legal family-reunion immigrants. Therefore, their earnings were higher and earnings differential with residents was smaller.

The limitation of specification 1 is that it assumed the returns to schooling and the experience profiles of immigrants were the same as those of residents.

However, the type of education received by new immigrants and the human capital acquired from their working experience in China were not necessarily the same as residents. As we have argued, the residents-immigrants earnings differential was originated from the difference in human capital. Therefore, it is not reasonable to assume identical returns to schooling and experience profiles for immigrants and residents. The coefficient of IMMIG in specification 1 thus absorbed the effect of such restriction. In specification 2, this restriction is relaxed.

2.2.2 Specification 2

The basic explanatory variables in estimating the earnings function are the same as in section 2.2.1, but there are additional variables used in the estimation. Table 17 shows the definition of the additional variables used.

Table 17: The Definition of the additional variables used in the estimation of earnings function

Variable	Definition
IMSCH	The interactive term of IMMIG and SCH, it equals IMMIG x SCH.
IMSCH2	The interactive term of IMMIG and SCH2, it equals IMMIG x SCH2.
IMWKYR	The interactive term of IMMIG and WORKYR, it equals IMMIG x WORKYR.
IMWKYR2	The interactive term of IMMIG and WORKYR2, it equals IMMIG x WORKYR2.

The cross-sectional estimation will be based on the following specification:

$$LOGMEARN_i = b_0+b_1(SCH_i)+b_2(SCH2_i)+b_3(IMSCH_i)+b_4(IMSCH2_i)+ b_5(WORKYR_i)+b_6(WORKYR2_i)+b_7(IMWKYR_i)+b_8(IMWKYR2_i)+ b_9(MARRIED_i)+b_{10}(WIDOWED_i)+b_{11}(DIVORCED_i)+b_{12}(IMMIG_i)+\epsilon_i \quad .....(2)$$

The main earnings of an individual i depends on his year of schooling attained, working experience, marital status and whether he is a new immigrant. Moreover, the interactive terms IMSCH, IMSCH2, IMWKYR and IMWKYR2 allow new immigrants to possess different returns to schooling and experience profile. The results are listed from Table 18 to Table 21.

In specification 2, immigrants are allowed to have different returns to schooling and experience profiles. We find that the returns to schooling of immigrants were much lower than those of residents. Moreover, the experience profile of immigrants was much flatter than that of residents. In order to make comparison easier, Table 22 reports the returns to schooling and the slope of the experience profiles of residents and immigrants. The figures inside brackets were the corresponding differences between the coefficients for immigrants and residents.

Table 18: Earnings Function, Specification 2, Male, 1981

Estimation Results

Variable	Estimate	Std Err	T-Stat
INTERCEP	6.74925	0.00572831	1178.227
SCH	-0.030696	0.0010284	-29.848
SCH2	0.005775	0.00005582	103.458
IMSCH	0.016439	0.00358707	4.583
IMSCH2	-0.004224	0.0001966	-21.485
WORKYR	0.043427	0.00031428	138.179
WORKYR2	-0.000787	0.00000549	-143.352
IMWKYR	-0.030305	0.00102643	-29.525
IMWKYR2	0.000401	0.00002393	16.757
MARRIED	0.233345	0.00276498	84.393
WIDOW	0.078498	0.01036105	7.576
DIVORCED	0.115353	0.01250907	9.222
IMMIG	0.275867	0.01943724	14.193
Adj R-sq	0.3053		

Table 19: Earnings Function, Specification 2, Female, 1981

Estimation Results

Variable	Estimate	Std Err	T-Stat	
INTERCEP	6.419369	0.00811748	790.808	
SCH	-0.00396	0.00148699	-2.663	
SCH2	0.006314	0.0000858	73.590	
IMSCH	-0.003276	0.0046975	-0.697	*
IMSCH2	-0.004301	0.00027568	-15.601	
WORKYR	0.024255	0.00045511	53.295	
WORKYR2	-0.000373	0.00000767	-48.631	
IMWKYR	-0.019505	0.00126154	-15.461	
IMWKYR2	0.000244	0.00002522	9.675	
MARRIED	-0.073065	0.00420895	-17.359	
WIDOW	-0.02299	0.00856224	-2.685	
DIVORCED	0.134202	0.01670098	8.036	
IMMIG	0.33722	0.02464167	13.685	
Adj R-sq	0.2794			

* Statistically insignificant at 99% confidence level.

Table 20: Earnings Function, Specification 2, Male, 1986

Estimation Results

Variable	Estimate	Std Err	T-Stat	
INTERCEP	7.138331	0.00683961	1043.675	
SCH	-0.028995	0.00118835	-24.399	
SCH2	0.0062	0.00006222	99.646	
IMSCH	0.005917	0.00850565	0.696	*
IMSCH2	-0.003174	0.00042342	-7.496	
WORKYR	0.044738	0.00036501	122.567	
WORKYR2	-0.000779	0.00000631	-123.455	
IMWKYR	-0.034075	0.00211473	-16.113	
IMWKYR2	0.000512	0.00004578	11.184	
MARRIED	0.237254	0.00322355	73.600	
WIDOW	0.123089	0.0125723	9.790	
DIVORCED	0.125636	0.01190416	10.554	
IMMIG	0.269997	0.04692358	5.754	
Adj R-sq	0.3191		* Statistically Insignificant	

Table 21: Earnings Function, Specification 2, Female, 1986

Estimation Results

Variable	Estimate	Std Err	T-Stat	
INTERCEP	6.792058	0.00951929	713.505	
SCH	-0.007658	0.00167402	-4.575	
SCH2	0.006812	0.00009181	74.197	
IMSCH	-0.0000594	0.00759189	-0.008	*
IMSCH2	-0.004112	0.00043572	-9.437	
WORKYR	0.032856	0.0004829	68.039	
WORKYR2	-0.000499	0.00000842	-59.264	
IMWKYR	-0.02632	0.00211055	-12.471	
IMWKYR2	0.000388	0.00004085	9.498	
MARRIED	-0.005624	0.00448633	-1.254	*
WIDOW	0.04263	0.0102369	4.164	
DIVORCED	0.123298	0.01482849	8.315	
IMMIG	0.353159	0.0437838	8.066	
Adj R-sq	0.3001			

* Statistically insignificant at 99% confidence level.

Table 22: The returns to schooling and the slope of experience profile of residents and immigrants

Male

	81		86	
	Residents	Immigrants	Residents	Immigrants
Returns to schooling (at SCH=10)	0.085	0.017 (-0.068)	0.095	0.037 (-0.058)
Slope of experience profile (at WORKYR=10)	0.0277	0.0054 (-0.0223)	0.0292	0.0053 (-0.0238)

Female

	81		86	
	Residents	Immigrants	Residents	Immigrants
Returns to schooling (at SCH=10)	0.122	0.033 (-0.089)	0.129	0.046 (-0.082)
Slope of experience profile (at WORKYR=10)	0.0168	0.0022 (-0.0146)	0.0229	0.0043 (-0.0186)

Note: The figures in bracket are the residents-immigrants difference in returns to schooling and the slope of experience profile.

As we have argued, most of the human capital of new immigrants were acquired in China. Since it was not perfectly transferable across locations, the earnings of immigrants were lower than residents. The estimation of specification 2 verified such argument. In specification 1, we assumed that the returns to schooling and experience profiles of immigrants were the same as residents and therefore they were over-estimated for immigrants.

The fact that the returns to schooling of immigrants were lower than those of residents might be due to the lower quality or relevance of education that they received in China. Therefore, as long as new immigrants were working in the Hong Kong labour market, their qualifications obtained in China would not be fully recognized by Hong Kong employers. Moreover, the immigrant on-the-job investments of human capital made in China were not fully transferable to Hong Kong. A significant proportion of their human capital was location-specific and hence the experience profiles of immigrants were much flatter than those of residents.

The coefficients of IMMIG this time were positive, indicating that after accounting for the effect of locational differences in education and in the on-the-job investments of human capital, the earnings of immigrants were significantly higher than residents. This apparently contradicts to our observations at the beginning.

However, the lower earnings of immigrants were already explained by their lower returns to schooling and flatter experience profiles. Therefore, the positive coefficients of IMMIG suggested that there were some unobservable qualities of immigrants bringing them a higher earnings, though their returns to schooling were lower and experience profiles were flatter. For example, immigrants might be more hard working than residents. Bear in mind that hours of work were also a determinant of earnings. Since new immigrants usually have no premises or other kind of wealth in Hong Kong, such wealth effect should drive them to supply more hours of work and hence bring them a higher earnings.

The coefficients of IMMIG for women were higher than those for men. As we have discussed in section 2.2.1, the problem of imperfect transferability of human capital was less serious for female immigrants. This is reflected in the larger coefficients of IMMIG for women. The returns to schooling of immigrants were lower and their experience profiles were flatter as compared to residents.

Comparing the immigrants in 1981 to those in 1986, we can find that their experience profiles were similar to each other. However, the returns to schooling of immigrants were improved relatively to residents in 1986. In 1981, the ratio of the returns to schooling of immigrants to those of residents was 19.8% for men and 27% for women. In 1986, that ratio was 39.4% for men and 36% for women. This reveals that the qualifications obtained

from China was being recognized more in 1986 than in 1981. This might be because the qualifications obtained from China were recognized more by the Hong Kong employers in 1986. However, it is worth noting that there should be a part of the legal family reunion immigrants in 1986 was expatriate personnel of some China related companies in Hong Kong. Therefore it is not surprising to see a higher returns to schooling for this group of immigrants.

2.2.3 Specification 3

In specification 3, we estimated immigrant and resident earnings functions separately. The definition of the variables used was the same as before and was already shown on Table 12. The followings is the specification.

$$LOGMEARN_i = c_0+c_1(SCH_i)+c_2(SCH2_i)+c_3(WORKYR_i)+c_4(WORKYR2_i)+ c_5(MARRIED_i)+c_6(WIDOWED_i)+c_7(DIVORCED_i)+\epsilon_i \quad .....(3)$$

In specification 3, residents and immigrants were not only allowed to have different returns to schooling and experience profiles, but also allowed to have different effects of marital status on the allocation of time. The results of the estimation of specification 3 were listed from Table 23 to Table 26.

Table 23: Earnings Functions, Specification 3, Male, 1981

Summary Statistics: same as that in Table 13
Estimation Results

	Residents			Immigrants		
Variable	Estimate	Std Err	T-Stat	Estimate	Std Err	T-Stat
INTERCEP	6.756041	0.00584362	1156.140	6.884458	0.01525794	451.205
SCH	-0.030893	0.00104787	-29.482	-0.00259	0.00270952	-0.956 *
SCH2	0.005756	0.00005688	101.195	0.00137	0.00014723	9.305
WORKYR	0.042214	0.00032429	130.174	0.026695	0.00089923	29.687
WORKYR2	-0.000772	0.00000563	-137.123	-0.000542	0.00001901	-28.511
MARRIED	0.254133	0.00295055	86.131	0.018444	0.00726332	2.539
WIDOW	0.094811	0.01072749	8.838	-0.008916	0.04771796	-0.187 *
DIVORCED	0.130484	0.0130997	9.961	-0.003582	0.4255949	-0.008 *
	Adj R-sq	0.3011		Adj R-sq	0.0882	

* Statistically insignificant at 99% confidence level.

Table 24: Earnings Functions, Specification 3, Female, 1981

Summary Statistics: same as that in Table 14
Estimation Results

	Residents			Immigrants		
Variable	Estimate	Std Err	T-Stat	Estimate	Std Err	T-Stat
INTERCEP	6.420655	0.00826603	776.752	6.731026	0.01920929	350.405
SCH	-0.004016	0.00151281	-2.655	-0.005017	0.00354346	-1.416 *
SCH2	0.006312	0.00008731	72.294	0.001994	0.00020708	9.629
WORKYR	0.024009	0.00046937	51.152	0.007806	0.0012315	6.339
WORKYR2	-0.00037	0.00000787	-47.014	-0.000154	0.0000215	-7.163
MARRIED	-0.06897	0.00445539	-15.480	-0.124013	0.01205593	-10.286
WIDOWED	-0.015098	0.00893998	-1.689 *	-0.160091	0.03078081	-5.201
DIVORCED	0.142943	0.01739793	8.216	-0.026166	0.06173639	-0.424 *
	Adj R-sq	0.283		Adj R-sq	0.0655	

* Statistically Insignificant at 99% confidence level.

Table 25: Earnings Functions, Specification 3, Male, 1986

Summary Statistics: same as that in Table 15
Estimation Results

	Residents			Immigrants		
Variable	Estimate	Std Err	T-Stat	Estimate	Std Err	T-Stat
INTERCEP	7.139679	0.00685413	1041.661	7.35117	0.04239259	173.407
SCH	-0.02901	0.00119056	-24.367	-0.019878	0.00762394	-2.607
SCH2	0.006195	0.00006234	99.374	0.003065	0.0003789	8.089
WORKYR	0.044493	0.00036679	121.304	0.023437	0.00232267	10.091
WORKYR2	-0.000776	0.00000633	-122.591	-0.000443	0.00004515	-9.812
MARRIED	0.241217	0.0032616	73.957	0.038486	0.02083902	1.847 *
WIDOWED	0.126085	0.01267413	9.948	-0.002144	0.10308729	-0.021 *
DIVORCED	0.12671	0.01201369	10.547	0.112868	0.08961352	1.259 *
	Adj R-sq	0.3187		Adj R-sq	0.1382	

* Statistically Insignificant at 99% confidence level.

Table 26: Earnings Functions, Specification 3, Female, 1986

Summary Statistics: same as that in Table 16
Estimation Results

	Residents			Immigrants		
Variable	Estimate	Std Err	T-Stat	Estimate	Std Err	T-Stat
INTERCEP	6.792627	0.00956435	710.203	7.136007	0.03743655	190.616
SCH	-0.007666	0.00168179	-4.558	-0.00692	0.00647806	-1.068 *
SCH2	0.00681	0.00009223	73.837	0.002741	0.00037264	7.356
WORKYR	0.032695	0.00048705	67.129	0.013072	0.002361	5.537
WORKYR2	-0.000497	8.48000E-06	-58.608	-0.000196	0.00004073	-4.812
MARRIED	-0.002836	0.00456366	-0.621 *	-0.115777	0.02496907	-4.637
WIDOWED	0.04649500	0.01042373	4.460	-0.109667	0.05488322	-1.998 *
DIVORCED	0.124276	0.01511687	8.221	0.06333	0.07644586	0.828 *
	Adj R-sq	0.3002		Adj R-sq	0.0773	

* Statistically Insignificant at 99% confidence level.

As aforementioned, the returns to schooling of immigrants were on average lower than those of residents, and their experience profiles were also flatter than residents. Besides these residents-immigrants differences, there were some other differences in the impact of marital status on their earnings. Firstly, for male residents, those married had a significantly higher earnings than those single. However, such effect was far weaker for male immigrants (for easier comparison, Table 27 lists the returns to schooling, slopes of experience profiles and the estimates of other coefficients). This might be due to that immigrants already supplied a larger number of hours of work to market production than residents did. As a result, married immigrants were unable to allocate extra time to market production though there were division of labour in household production. Therefore, such time-allocation effect for male immigrants was weaker than that for residents.

Secondly, married women on average earned less than single. Such effect was stronger for immigrants than for residents. The earnings of married female immigrants were on average approximately 12% lower than those of single female immigrants. This compared to the 7% for residents in 1981 and the insignificant 3% for residents in 1986 (see Table 27). As we have discussed above, wealth effect drove immigrants to work harder. Thus, they spent more time in market production than female residents did. Therefore if these newly immigrated women got married

and wanted to allocate more time to household production, they had to re-allocate more of the time from market production than married female residents did. This explained why such time-allocation effect was stronger for female immigrants. Thirdly, the intercept terms of the equations for immigrants were consistently higher than that of residents. This meant after accounting for their level of education, working experience and the effect of marital status on allocation of time, immigrants had a higher earnings than residents. This reconciled with the wealth effect argument made in the previous section. Lastly, the adjusted R-square statistics of the estimations for immigrants were in general lower than those for residents, reflecting that there were some more other factors determined the earnings of immigrants.

After controlling for the years of schooling, working experience and marital status, the earnings of immigrants were significantly higher than that of residents. Such residents-immigrants difference for women was larger than that for men. As we have argued in Section 2.2.1, female immigrants were more likely to be employed as "Production and Related Workers" in "Manufacturing" industry, which requires less location-specific skills.

Table 27: Comparison of Empirical Results, Specification 3, Various Samples

Male	81		86	
	Residents	Immigrants	Residents	Immigrants
Returns to schooling (at SCH=10)	0.0842	0.0248	0.0949	0.0414
Slope of experience profile (at WORKYR=10)	0.0268	0.0159	0.0290	0.0146
INTERCEP	6.7560	6.8845	7.1397	7.3512
MARRIED	0.2541	0.0184	0.2412	0.0385 *
WIDOWED	0.0948	-0.0089 *	0.1261	-0.0021 *
DIVORCED	0.1305	-0.0036 *	0.1267	0.1129 *
Adj R-sq	0.3011	0.0882	0.3187	0.1382

Female	81		86	
	Residents	Immigrants	Residents	Immigrants
Returns to schooling (at SCH=10)	0.1222	0.0349	0.1285	0.0479
Slope of experience profile (at WORKYR=10)	0.0166	0.0047	0.0228	0.0092
INTERCEP	6.4207	6.7310	6.7926	7.1360
MARRIED	-0.0690	-0.1240	-0.0028 *	-0.1158
WIDOWED	-0.0151 *	-0.1601	0.0465	-0.1097 *
DIVORCED	0.1429	-0.0262 *	0.1243	0.0633 *
Adj R-sq	0.2830	0.0655	0.3002	0.0773

*Statistically Insignificant at 99% confidence level.

Comparing the immigrants in 1981 to those in 1986, we can find that male immigrants in 1986 earned 21% more than male residents did, as compared with the 12% in 1981 (they are calculated from the difference between the intercept terms of residents and immigrants). One of the possible explanation of such difference was that the legal family reunion immigrants in 1986 were relatively more wealthy than those illegal immigrants in 1981. Since legal family reunion immigrants usually had relatives in Hong Kong, they had better economic support, and therefore had a higher reservation wage. If there was such a difference between the immigrants in 1981 and in 1986, then the explanatory variables we used would not be able to capture such a difference. This would then be absorbed by the intercept terms. This argument would be reconciled in the next chapter, which will investigate the labour force participation behaviour of immigrants.

All in all, the source of the residents-immigrants earnings differential was originated from the imperfect transferability of human capital across locations and the distinct time-allocation-effect of marital status for immigrants. After accounting for these effects, earnings of immigrants were on average higher than those of residents. This might be because of the different supply of hours of work, and also other unobservable qualities of immigrants.

CHAPTER III: THE LABOUR FORCE PARTICIPATION AND UNEMPLOYMENT OF NEW IMMIGRANTS

3.1 The Labour Force Participation Behaviour of Immigrants

Labour force participation decision primarily depends on an individual's reservation wage and the market offered wage facing him. It is assumed that an individual should allocate his time to the most valuable alternative. Therefore, in principle, whenever the market wage is higher than the reservation wage facing him, he should participate market production. If the opposite happens, then he should not participate market production. Market wage depends on one's level of education, working experience and some other characteristics. On the other hand, reservation wage depends on some similar characteristics and also on other opportunities forgone if he decides to participate in labour force. Usually, participation in household production is regarded as one of the most important opportunities. Therefore, marital status is an important determinant of one's labour force participation behaviour. Moreover, if there is some other sources of income available to an individual, his reservation wage will be increased. This discourages him to participate in market production. Immigrants are comparatively less wealthy than residents. Thus, they should have lower reservation wages and a higher participation rate than residents.

In order to study the labour force participation behaviour of immigrants, sub-samples were selected from the original 20%-sample in 1981 and the 14.5%-sample in 1986.

The individuals selected were within the "15-65" age bracket, regardless of whether one participated in labour force. There were 571,174 residents and 45,038 immigrants selected from the 1981 sample, 507,706 residents and 13,899 immigrants selected from the 1986 sample. The labour force participation rates of residents and immigrants in corresponding years were listed in Table 28 and Table 29.

3.1.1 The Basic Outlook

The labour force participation rate of immigrants was in general higher than that of residents. This happened for individuals of both sexes in the corresponding years. In 1981 and 1986, the labour force participation rate of male residents was approximately equal to 85% while that of female residents rose slightly from 52% in 1981 to 55% in 1986. Besides, immigrants' participation rate was higher than that of residents. This was especially obvious in 1981. The rate for male immigrants in 1981 was 96%, 11 percentage points higher than that of male residents. On the other hand, the rate of female immigrants was 72%, 20 percentage points higher than that of female residents. However, such difference was much less significant in 1986. The rate of male immigrants was almost the same as that of residents in 1986, while the rate of female immigrants was roughly 10 percentage points higher than residents.

Table 28: Labour Force Participation of Population, by Sex, 1981

	Residents		Immigrants	
	Male	Female	Male	Female
Outside Labour Force	44815	131369	969	5010
Inside Labour Force	252479	142511	25993	13066
Total	297294	273880	26962	18076

	Residents		Immigrants	
(%)	Male	Female	Male	Female
Outside Labour Force	15.07	47.97	3.59	27.72
Inside Labour Force	84.93	52.03	96.41	72.28
Total	100.00	100.00	100.00	100.00

Table 29: Labour Force Participation of Population, by Sex, 1986

	Residents		Immigrants	
	Male	Female	Male	Female
Outside Labour Force	40512	107461	855	2781
Inside Labour Force	226627	133106	5060	5203
Total	267139	240567	5915	7984

	Residents		Immigrants	
(%)	Male	Female	Male	Female
Outside Labour Force	15.17	44.67	14.45	34.83
Inside Labour Force	84.83	55.33	85.55	65.17
Total	100.00	100.00	100.00	100.00

The male-female difference in labour force participation rate can be well-explained by the fact that married women's participation rate was reduced by their specialisation in household production. On the other hand, the difference between labour force participation rates of residents and immigrants is investigated in next section, by estimating a logit model of the labour force participation decision.

3.1.2 The Estimation of a Logit Model of Labour Force Participation

A binomial logit model states the probabilities of the two outcomes of a stochastic event. The probability of outcome 0

$$P_{0i} = e^{\beta X_i}/(1-e^{\beta X_i})$$

and that of outcome 1

$$P_{1i} = 1/(1-e^{\beta X_i}) \quad \text{and}$$

$$P_{0i} + P_{1i} = 1$$

where e is the natural number, X_i is the vector of the characteristics of an individual i and β is the vector of the corresponding coefficients of X. Given these, we can obtain

$$\text{Ln}(P_0/P_1) = \beta \cdot X$$

In our model,

$$\begin{aligned}\text{Ln}(P_0/P_1) = {} & \beta_0 + \beta_1(\text{SCH}) + \beta_2(\text{SCH2}) + \beta_3(\text{AGE}) + \\ & \beta_4(\text{AGE2}) + \beta_5(\text{MARRIED}) + \beta_6(\text{WIDOWED}) + \\ & \beta_7(\text{DIVORCED}) + \beta_8(\text{IMMIG})\end{aligned}$$

P_0 represents the probability of not

participating in labour force and P_1 represents the probability of participating in labour force. The coefficient ß is estimated with maximum likelihood method. The estimates and the corresponding marginal probabilities, that is, dP_0/dX_j, are listed from Table 30 to Table 33. The definitions of the variables used are the same as in Chapter II (see Table 12). The variables AGE and AGE2 represent the age and its square term of an individual.

The labour force participation rate of an individual depends on the market offered wage and reservation wage facing him. In addition, the two wages depends on a similar set of characteristics of the individual. Thus, no simple interpretation can be easily made on the coefficients of schooling, age, and marital status of the logit equation. However, there are still some noteworthy findings.

Firstly, the labour force participation rate and the age of an individual displayed an inverted U-shape relationship. That is, the rate increased with age first, and then reached a maximum and began to decrease with age. It can be explained by the fact that young people have a higher probability of studying in schools. This means that this group of people are still making the investment in human capital. Thus, they are more likely to be not participating in labour force.

Table 30: Logit Model for Labour Force Participation, Male, 1981

Summary Statistics

	OUTSIDE(P_0)		INSIDE(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	9.1314	3.5676	7.8991	3.7296
SCH2	96.110	59.568	76.306	64.021
AGE	27.759	18.242	35.175	13.025
AGE2	1103.31	1411.13	1406.95	1010.35
MARRIED	0.22586	0.41816	0.57340	0.49458
WIDOWED	0.02066	0.14225	0.01036	0.10124
DIVORCED	0.00258	0.05070	0.00663	0.08117
IMMIG	0.02116	0.14393	0.09334	0.29091
Obs =	45784		278472	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)
INTERCEP	12.1389	0.0726	167.2025	
SCH	-0.1743	0.00664	-26.25	-0.02114
SCH2	0.0182	0.000362	50.27624	0.002207
AGE	-0.8947	0.0043	-208.07	-0.10849
AGE2	0.0111	0.000052	213.4615	0.001346
MARRIED	-0.1273	0.0287	-4.43554	-0.015436
WIDOWED	0.7631	0.058	13.1569	0.092534
DIVORCED	0.2983	0.1219	2.447088	0.036172
IMMIG	-1.6799	0.0359	-46.7939	-0.20371

Table 31: Logit Model for Labour Force Participation, Female, 1981

Summary Statistics

	OUTSIDE(P_0)		INSIDE(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	6.1988	4.2703	7.1963	4.2904
SCH2	56.661	55.751	70.194	62.736
AGE	36.684	15.770	32.232	13.093
AGE2	1594.39	1223.75	1210.32	991.69
MARRIED	0.69321	0.46116	0.49431	0.49997
WIDOWED	0.06544	0.24731	0.04496	0.20722
DIVORCED	0.00415	0.06429	0.00823	0.09033
IMMIG	0.03674	0.18811	0.08398	0.27736
Obs =	136379		155577	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)
INTERCEP	3.9792	0.0396	100.4848	
SCH	0.0432	0.00313	13.80192	0.010753
SCH2	-0.0026	0.000209	-12.4402	-0.00065
AGE	-0.3284	0.00244	-134.59	-0.08175
AGE2	0.00411	0.00003	137	0.001023
MARRIED	2.148	0.0149	144.1611	0.534678
WIDOWED	1.5384	0.0237	64.91139	0.382937
DIVORCED	0.9439	0.055	17.16182	0.234955
IMMIG	-0.8894	0.018	-49.4111	-0.22139

Table 32: Logit Model for Labour Force Participation, Male, 1986

Summary Statistics

	OUTSIDE(P_0)		INSIDE(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	8.7897	4.0178	8.5152	3.7824
SCH2	93.401	65.910	86.815	67.105
AGE	31.793	19.384	35.868	12.461
AGE2	1386.53	1506.81	1441.79	984.42
MARRIED	0.29386	0.45553	0.59843	0.49022
WIDOWED	0.02468	0.15515	0.00916	0.09529
DIVORCED	0.00732	0.08527	0.00983	0.09867
IMMIG	0.02067	0.14227	0.02184	0.14616
Obs =	41367		231687	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)
INTERCEP	10.4668	0.0664	157.6325	
SCH	-0.2328	0.00585	-39.7949	-0.02993
SCH2	0.0163	0.000323	50.4644	0.002095
AGE	-0.7196	0.00368	-195.543	-0.0925
AGE2	0.00905	0.000044	205.6818	0.001163
MARRIED	-0.3152	0.0266	-11.8496	-0.04052
WIDOWED	0.169	0.0555	3.045045	0.021724
DIVORCED	0.324	0.0786	4.122137	0.041649
IMMIG	-0.1147	0.0462	-2.48268	-0.01474

Table 33: Logit Model for Labour Force Participation, Female, 1986

Summary Statistics

	OUTSIDE(P_0)		INSIDE(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	6.5766	4.3189	8.2435	4.2260
SCH2	61.905	58.305	85.814	65.631
AGE	38.035	15.745	32.845	12.014
AGE2	1694.55	1247.57	1223.11	921.45
MARRIED	0.69725	0.45945	0.53350	0.49888
WIDOWED	0.07211	0.25866	0.03477	0.18320
DIVORCED	0.00717	0.08435	0.01269	0.11193
IMMIG	0.02523	0.15681	0.03762	0.19027
Obs =	110242		138309	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)
INTERCEP	4.8187	0.0448	107.5603	
SCH	0.0511	0.00356	14.35393	0.012612
SCH2	-0.00565	0.000231	-24.4589	-0.00139
AGE	-0.3647	0.00269	-135.576	-0.09001
AGE2	0.00458	0.000033	138.7879	0.00113
MARRIED	1.9087	0.0162	117.821	0.47109
WIDOWED	1.4857	0.0269	55.23048	0.366689
DIVORCED	0.9205	0.0486	18.94033	0.227191
IMMIG	-0.5082	0.0251	-20.247	-0.12543

Since working experience increases with age and it has an inverted U-shape relationship with earnings, it is reasonable to see that labour force participation rate has a similar relationship with age.

Secondly, marital status is an important determinant of how a woman allocates her time. It is found that the labour force participation rate of married women was 47 to 48 percentage points lower than that of single women. It is primarily due to the fact that marriage increases the value of household production and hence increases the reservation wage. Since women are more likely to specialize in household production, married female individuals had a lower labour force participation rate.

Looking into the coefficients of IMMIG, it is found that the labour force participation rate of immigrants is higher than that of residents. After controlling the level of education, age and marital status, the labour force participation rate of immigrants was approximately 20 to 22 percentage points higher than that of residents in 1981. In 1986, the labour force participation rate of male immigrants was 1.5 percentage points higher than that of male residents, while that of female immigrants was 12.5 percentage points higher than female residents. The difference was probably due to the fact that immigrants were lack of other sources of income and hence had a lower reservation wage.

Comparing the immigrants in 1981 with those in

1986, we can find that the coefficients of IMMIG in 1981 were larger in magnitude and also statistically more significant than those in 1986. This suggests that in 1981 the reservation wage of immigrants was much lower than that of residents, while such difference became less significant in 1986. As we have discussed in Chapter II, immigrants in 1986 had more economic supports from their relatives and therefore had higher reservation wages. This helps to explain why the participation rate of immigrants in 1981 was more significantly higher than residents, as compared with that in 1986. This reconciles with the argument made in Section 2.2.3 that this may be the reason why the earnings differential between residents and immigrants was larger in 1986 as compared in 1981.

3.2 The Unemployment of Immigrants

Unemployment rate depends on the flows between three pools of people. These three pools are the pool of "employed"(E), the pool of "unemployed"(U) and the pool of "not in the labour force"(N). Hereafter, P_{ij} represents the probability that a person to flow from pool i to pool j. For example, P_{EU} refers to the probability of a person to quit or to be laid off. Unemployment rate rises with P_{EU}, P_{EN} and P_{NU}, and declines with P_{UE}, P_{UN} and P_{NE}. Any systematic difference between the unemployment rate of residents and immigrants should be due to the systematic differences between these probabilities of the two groups.

In order to study the unemployment of immigrants, further sub-samples were selected. In this case, only those individuals participated in labour force were selected from the samples used in Section 3.1. There were 394,990 residents and 39,059 immigrants selected from the 1981 sample, 359,733 residents and 10,263 immigrants selected from the 1986 sample. The unemployment rates of residents and immigrants in corresponding years were listed in Table 34 and Table 35.

3.2.1 The Basic Outlook

In 1981, the unemployment rate of immigrants were obviously lower than that of residents. In 1981, the unemployment rate of male residents was 5.77%, 1.17 percentage points higher than the 4.6% of male immigrants. On the other hand, the unemployment rate of female residents was 5.95%, 1.43 percentage points higher than the 4.52% of immigrants. However, in 1986, the unemployment rates of the two groups were almost the same. In 1986, the unemployment rate of male residents was 3.88% while that of male immigrants was 3.68%. On the other hand, the unemployment rate of female residents was 4.25% while that of female immigrants was 4.23%. Comparing men with women, the unemployment rates of the two groups were similar in 1981, but in 1986, the rate of women was higher than that of men by approximately half a percentage point.

Table 34: Unemployment Rate of Population, by Sex, 1981

	Residents		Immigrants	
	Male	Female	Male	Female
Unemployed	14568	8478	1195	591
Employed	237911	134033	24798	12475
Total	252479	142511	25993	13066

(%)	Residents		Immigrants	
	Male	Female	Male	Female
Unemployed	5.77	5.95	4.60	4.52
Employed	94.23	94.05	95.40	95.48
Total	100.00	100.00	100.00	100.00

Table 35: Unemployment Rate of Population, by Sex, 1986

	Residents		Immigrants	
	Male	Female	Male	Female
Unemployed	8788	5661	186	220
Employed	217839	127445	4874	4983
Total	226627	133106	5060	5203

(%)	Residents		Immigrants	
	Male	Female	Male	Female
Unemployed	3.88	4.25	3.68	4.23
Employed	96.12	95.75	96.32	95.77
Total	100.00	100.00	100.00	100.00

3.2.2 The Estimation of a Logit Model of Unemployment Rate

The rationale of binomial logit model was already explained in Section 3.1.2. In our model,

$$\begin{aligned}\text{Ln}(P_0/P_1) = {} & \alpha_0 + \alpha_1(\text{SCH}) + \alpha_2(\text{SCH2}) + \alpha_3(\text{AGE}) + \\ & \alpha_4(\text{AGE2}) + \alpha_5(\text{MARRIED}) + \alpha_6(\text{WIDOWED}) + \\ & \alpha_7(\text{DIVORCED}) + \alpha_8(\text{IMMIG})\end{aligned}$$

P_0 represents the probability of being unemployed and P_1 represents the probability of being employed. The coefficient α is estimated with maximum likelihood method. The estimation results and the marginal probabilities (dP_0/dX_j), were listed from Table 36 to Table 39. The definitions of the variables used are the same as in Section 3.1.2.

The effect of schooling on an individual's unemployment rate varied from case to case. In 1981, the year of schooling demonstrated a U-shape relationship with unemployment rate (or the probability of being unemployed). In 1986, the unemployment rate of a male individual was decreasing with his year of schooling. On the other hand, the unemployment rate of a female individual had an inverted U-shape relationship with schooling.

Table 36: Logit Model for Unemployment, Male, 1981

Summary Statistics

	UNEMPLOYED(P_0)		EMPLOYED(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	7.2167	3.8153	7.9401	3.7205
SCH2	66.637	61.048	76.887	64.149
AGE	34.637	14.798	35.208	12.910
AGE2	1418.72	1127.89	1406.25	1002.85
MARRIED	0.44198	0.49664	0.58128	0.49335
WIDOWED	0.01859	0.13507	0.00986	0.09882
DIVORCED	0.01078	0.10329	0.00638	0.07964
IMMIG	0.07581	0.26470	0.09439	0.29238
Obs =	15763		262709	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)	
INTERCEP	0.0798	0.0799	0.998748		*
SCH	-0.1274	0.00693	-18.3838	-0.0068	
SCH2	0.00466	0.000422	11.04265	0.000249	
AGE	-0.1189	0.00423	-28.1087	-0.00635	
AGE2	0.00156	0.000051	30.58824	0.000083	
MARRIED	-0.5602	0.0241	-23.2448	-0.02992	
WIDOWED	-0.0728	0.0677	-1.07533	-0.00389	*
DIVORCED	0.2197	0.0839	2.618594	0.011732	
IMMIG	-0.3576	0.0315	-11.3524	-0.0191	

* Statistically Insignificant at 99% confidence level.

Table 37: Logit Model for Unemployment, Female, 1981

Summary Statistics

	UNEMPLOYED(P_0)		EMPLOYED(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	7.0845	4.3897	7.2032	4.2841
SCH2	69.457	64.360	70.239	62.634
AGE	31.378	14.124	32.285	13.025
AGE2	1184.06	1062.31	1211.95	987.14
MARRIED	0.44878	0.49740	0.49713	0.49999
WIDOWED	0.05238	0.22280	0.04450	0.20621
DIVORCED	0.01433	0.11887	0.00785	0.08825
IMMIG	0.06517	0.24683	0.08515	0.27910
Obs =	9069		146508	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)
INTERCEP	0.0299	0.106	0.282075	*
SCH	-0.0786	0.00918	-8.56209	-0.00431
SCH2	0.00476	0.000572	8.321678	0.000261
AGE	-0.1528	0.00618	-24.7249	-0.00839
AGE2	0.0018	0.000077	23.37662	0.000099
MARRIED	0.2616	0.0323	8.099071	0.01436
WIDOWED	0.3059	0.0621	4.925926	0.016792
DIVORCED	0.9642	0.0975	9.889231	0.052929
IMMIG	-0.3067	0.0438	-7.00228	-0.01684

* Statistically Insignificant at 99% confidence level.

Table 38: Logit Model for Unemployment, Male, 1986

Summary Statistics

	UNEMPLOYED(P_0)		EMPLOYED(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	7.8427	3.6542	8.5423	3.7850
SCH2	74.859	60.189	87.297	67.324
AGE	34.345	14.435	35.929	12.371
AGE2	1387.93	1117.49	1443.96	978.62
MARRIED	0.41230	0.49228	0.60593	0.48865
WIDOWED	0.01437	0.11904	0.00895	0.09420
DIVORCED	0.01437	0.11904	0.00965	0.09776
IMMIG	0.02073	0.14248	0.02188	0.14631
Obs =	8974		222713	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)	
INTERCEP	-0.00045	0.1092	-0.00412		*
SCH	-0.0444	0.00989	-4.48938	-0.00165	
SCH2	-0.0011	0.00059	-1.86441	-4.1E-05	
AGE	-0.1418	0.00566	-25.053	-0.00528	
AGE2	0.00184	0.000068	27.05882	0.000069	
MARRIED	-0.748	0.0317	-23.5962	-0.02785	
WIDOWED	-0.3901	0.0982	-3.97251	-0.01452	
DIVORCED	0.00889	0.0952	0.093382	0.000331	*
IMMIG	-0.00709	0.0763	-0.09292	-0.00026	*

* Statistically Insignificant at 99% confidence level.

Table 39: Logit Model for Unemployment, Female, 1986

Summary Statistics

	UNEMPLOYED(P_0)		EMPLOYED(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	8.3453	3.7567	8.2389	4.2456
SCH2	83.755	58.527	85.905	65.928
AGE	30.229	12.202	32.961	11.992
AGE2	1062.66	905.32	1230.24	921.52
MARRIED	0.42170	0.49387	0.53847	0.49852
WIDOWED	0.03010	0.17087	0.03498	0.18372
DIVORCED	0.02296	0.14977	0.01223	0.10993
IMMIG	0.03741	0.18978	0.03763	0.19030
Obs =	5881		132428	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)	
INTERCEP	-0.6444	0.1377	-4.67974		
SCH	0.1007	0.0133	7.571429	0.0041	
SCH2	-0.00801	0.000809	-9.90111	-0.00033	
AGE	-0.1434	0.00783	-18.3142	-0.00584	
AGE2	0.00169	0.0001	16.9	0.000069	
MARRIED	-0.0915	0.0387	-2.36434	-0.00373	
WIDOWED	-0.0577	0.0926	-0.62311	-0.00235	*
DIVORCED	0.8169	0.0966	8.456522	0.033258	
IMMIG	0.0864	0.0708	1.220339	0.003518	*

* Statistically Insignificant at 99% confidence level.

However, the effect of age on unemployment rate was quite consistent. In 1981 and 1986, for both sexes, unemployment rate displayed a U-shape relationship with age. This result can be well-interpreted. To explain the range of age such that unemployment rate is decreasing with age, we can consider the fact that first time job-seekers (those with higher P_{NU}) are usually within the younger age group. At the same time, young people usually have a higher job separation rate (higher P_{EU}) as their investment on company-specific human capital is lower and hence they have a lower cost of job separation. However, as an individual is getting older, his probability to retire should be increasing (a higher P_{EN}). This explains why unemployment rate rise with age in the older age group.

The effect of marital status on unemployment rate varied from men to women. Married male in general had a lower unemployment rate than single male. In 1981, married men's unemployment rate was 3.0 percentage points lower than single men, while in 1986 such difference was 2.8 percentage points. This was probably due to the fact that a husband usually specialises in market production and he is the major source of income to his family. Thus, the dependence of his spouse and children imposes constraint on his job separation decision. This rigidity reduces P_{EU} for married male. On the other hand, in 1981 the unemployment rate of married women was 1.4 percentage points higher than that of single women, while in 1986 the unemployment rate of married women was 0.4 percentage point

lower than that of single.

The effect of being an immigrant on one's unemployment rate was statistically significant in 1981 but not in 1986. In 1981, male immigrant unemployment rate was 1.9 percentage point lower than male resident. Female immigrant unemployment rate was 1.7 percentage point lower than female resident. In 1986, the coefficient of IMMIG was insignificant for both sexes. Immigrants in 1981 had a lower unemployment rate than residents probably because they were more dependent on employment earnings than residents. Hence, they possessed a lower P_{EU} and a lower P_{EN}. However, this wealth effect was not significant for the immigrants in 1986. This reconciles with our argument that economic immigrants were relatively less wealthy as compared to the legal family reunion immigrants. Besides wealth effect, the availability of information was also an important determinant of job separation decision. Economic immigrants in 1981 should have less information about the job market as compared with the legal family reunion immigrants in 1986. This explained why the P_{EU} of economic immigrants was lower than that of legal family-reunion immigrants.

CHAPTER IV: THE PROPENSITY OF AN NEW IMMIGRANT TO START HIS OWN BUSINESS

4.1 The Decision To Start One's Own Business

Whether an individual chooses to be an employer or to be an employee is primarily determined by the expected return from each alternative. Such decision is similar to the labour force participation decision, that is, an individual should choose the highest-valued alternative. However, the alternative to be an employer or to be an "entrepreneur" incurs a cost of risk as the income is usually more volatile than wage earnings for an employee. Therefore, if other things being the same, a risk-averse individual should have a lower propensity to be an employer, as compared with a less risk-averse individual. Besides the attitude towards risk, the availability of fundings is also a determinant of one's propensity to be an employer. Since capital markets are not perfect in reality, the cost of credit and the availability of fundings becomes crucial determinants of one's propensity to start business. Last but not least, the availability of information is also an important factor.

Immigrants are usually more willing to accept risk. This is reflected in their willingness to accept a new and relatively uncertain environment. This suggests that immigrants should have a higher propensity to start their own businesses. Such propensity should be even higher for economic immigrants. On the other hand, the

availability of fundings and information is also a key determinant of such propensity.

In order to study the employment pattern of immigrants, sub-samples were selected from the original 20%-sample in 1981 and the 14.5%-sample in 1986. The individuals selected were within the "15-65" age bracket and classified as "employed". There were 371,944 residents and 37,273 immigrants selected from the 1981 sample, 345,284 residents and 9,857 immigrants selected from the 1986 sample. The category of "employers" included employers, the self-employed, and family workers. The category of "employee" included employees of government sector and private sector, and outworkers. The employment status of residents and immigrants was listed in Table 40 and Table 41.

4.2 The Basic Outlook

Relatively speaking, there were less employers among immigrants, as compared with residents. In 1981, the proportions for male and female residents being employers were 14.1% and 7.5% respectively, as compared with the corresponding 4.0% and 2.3% for immigrants. In 1986 these proportions were 14.2% and 9.6% for residents as compared with 6.8% and 5.5% for immigrants.

Table 40: Employment Status of Population, by Sex, 1981

	Residents		Immigrants	
	Male	Female	Male	Female
Employee	204440	124020	23809	12188
Employer	33471	10013	989	287
Total	237911	134033	24798	12475

(%)	Residents		Immigrants	
	Male	Female	Male	Female
Employee	85.93	92.53	96.01	97.70
Employer	14.07	7.47	3.99	2.30
Total	100.00	100.00	100.00	100.00

Table 41: Employment Status of Population, by Sex, 1986

	Residents		Immigrants	
	Male	Female	Male	Female
Employee	186996	115256	4543	4710
Employer	30843	12189	331	273
Total	217839	127445	4874	4983

(%)	Residents		Immigrants	
	Male	Female	Male	Female
Employee	85.84	90.44	93.21	94.52
Employer	14.16	9.56	6.79	5.48
Total	100.00	100.00	100.00	100.00

Comparing male to female, it is found that the proportion of men being employers was in general higher than that of women. This is probably due to the discontinuity of women's exposure in market production because of maternity, leading to a higher fixed cost in starting new business. This encourages women to become employees rather than employers.

Comparing the year of 1981 and 1986, we find that the proportion of male residents being employers was almost the same for the two years (14.1% in 1981 and 14.2% in 1986.) However, the corresponding proportion for immigrants was higher in 1986 (6.8% for men) as compared with that in 1981 (4.0% for men.) Although such proportion for female residents was up from 1981's 7.5% to 1986's 9.6%, such change for female immigrants was much significant. It was found that such proportion for female immigrants rose from 1981's 2.3% to 1986's 5.5%. To sum up, the tendency for legal family reunion immigrants (in 1986) to become employers was apparently particularly higher than that for economic immigrants (in 1981.) This will be further discussed in the following section, in which logit models for the tendency to become employers are estimated.

4.3 The Estimation of a Logit Model of The Tendency To Become Employers

The rationale of binomial logit model was already explained in Section 3.1.2. In our model,

$$\text{Ln}(P_0/P_1) = \mu_0 + \mu_1(\text{SCH}) + \mu_2(\text{SCH2}) + \mu_3(\text{AGE}) + \mu_4(\text{AGE2}) + \mu_5(\text{MARRIED}) + \mu_6(\text{WIDOWED}) + \mu_7(\text{DIVORCED}) + \mu_8(\text{IMMIG})$$

P_0 represents the probability of being employers and P_1 represents the probability of being employees. The coefficient μ then is estimated with maximum likelihood method. The estimation results and the marginal probabilities (dP_0/dPX_j) are listed from Table 42 to Table 45. The definitions of the variables used are the same in Section 3.1.2.

The effect of education on an one's propensity to be an employer varied from male to female. For men, such propensity is decreasing with the level of education at first and increasing with it later, displaying a U-shape relationship with the years of schooling. However, such U-shape relationship is weak and such propensity is roughly declining with the year of schooling. On the other hand, for women such propensity is solely decreasing with the years of schooling.

Table 42: Logit Model for the Tendency to be Employers, Male, 1981

Summary Statistics

	EMPLOYER(P_0)		EMPLOYEE(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	7.3568	4.0962	8.0281	3.6523
SCH2	70.902	69.720	77.790	63.216
AGE	42.905	12.092	34.046	12.628
AGE2	1987.03	1026.87	1318.56	969.40
MARRIED	0.81672	0.38691	0.54574	0.49790
WIDOWED	0.01442	0.11923	0.00917	0.09534
DIVORCED	0.00760	0.08686	0.00620	0.07849
IMMIG	0.02870	0.16696	0.10431	0.30566
Obs =	34460		228249	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)
INTERCEP	-5.0903	0.0754	-67.5106	
SCH	-0.0245	0.00482	-5.08299	-0.00279
SCH2	0.00162	0.000278	5.827338	0.000185
AGE	0.1147	0.00379	30.26385	0.013072
AGE2	-0.00092	0.000044	-20.9091	-0.0001
MARRIED	0.5915	0.0192	30.80729	0.067411
WIDOWED	0.2922	0.054	5.411111	0.033301
DIVORCED	0.3418	0.0704	4.855114	0.038953
IMMIG	-0.93	0.0337	-27.5964	-0.10599

Table 43: Logit Model for the Tendency to be Employers, Female, 1981

Summary Statistics

	EMPLOYER(P_0)		EMPLOYEE(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	4.6049	4.4276	7.3997	4.2083
SCH2	40.806	58.226	72.465	62.393
AGE	42.493	12.313	31.513	12.749
AGE2	1957.21	1018.40	1155.59	961.52
MARRIED	0.79942	0.40046	0.47427	0.49934
WIDOWED	0.08184	0.27414	0.04168	0.19986
DIVORCED	0.01058	0.10233	0.00764	0.08709
IMMIG	0.02786	0.16459	0.08948	0.28544
Obs =	10300		136208	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)	
INTERCEP	-5.8434	0.1252	-46.6725		
SCH	-0.0691	0.00736	-9.38859	-0.00452	
SCH2	0.000923	0.000531	1.73823	0.00006	*
AGE	0.1284	0.0067	19.16418	0.008392	
AGE2	-0.0012	0.000079	-15.1899	-0.00008	
MARRIED	1.0822	0.0405	26.72099	0.070733	
WIDOWED	0.7314	0.0562	13.01423	0.047805	
DIVORCED	0.8002	0.1091	7.334555	0.052302	
IMMIG	-1.0881	0.0614	-17.7215	-0.07112	

* Statistically Insignificant at 99% confidence level.

Table 44: Logit Model for the Tendency to be Employers, Male, 1986

Summary Statistics

	EMPLOYER(P_0)		EMPLOYEE(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	7.9189	4.1322	8.6437	3.7155
SCH2	79.783	70.953	88.520	66.653
AGE	42.251	11.898	34.901	12.138
AGE2	1926.74	1015.08	1365.38	949.62
MARRIED	0.81648	0.38710	0.57166	0.49484
WIDOWED	0.01245	0.11087	0.00838	0.09118
DIVORCED	0.01238	0.11059	0.00920	0.09580
IMMIG	0.01062	0.10250	0.02372	0.15217
Obs =	31174		191539	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)
INTERCEP	-4.6911	0.0841	-55.78	
SCH	-0.0298	0.00518	-5.7529	-0.00359
SCH2	0.00171	0.000291	5.876289	0.000206
AGE	0.0976	0.00426	22.9108	0.011749
AGE2	-0.00077	0.000049	-15.7143	-0.00009
MARRIED	0.6687	0.0206	32.46117	0.080499
WIDOWED	0.3806	0.0608	6.259868	0.045817
DIVORCED	0.5719	0.06	9.531667	0.068846
IMMIG	-0.8134	0.0581	-14	-0.09792

Table 45: Logit Model for the Tendency to be Employers, Female, 1986

Summary Statistics

	EMPLOYER(P_0)		EMPLOYEE(P_1)	
	Mean	Std Dev	Mean	Std Dev
SCH	5.7493	4.5433	8.4976	4.1283
SCH2	53.694	61.922	89.251	65.427
AGE	41.067	12.242	32.119	11.647
AGE2	1836.39	1021.86	1167.27	887.03
MARRIED	0.80749	0.39428	0.51052	0.49989
WIDOWED	0.05978	0.23709	0.03240	0.17706
DIVORCED	0.01525	0.12254	0.01192	0.10853
IMMIG	0.02191	0.14638	0.03926	0.19422
Obs =	12462		119966	

Estimation Results

	Estimate	Std Err	T-stat	Marginal Prob (P_0)	
INTERCEP	-4.5309	0.1187	-38.171		
SCH	-0.0742	0.007	-10.6	-0.00633	
SCH2	0.000413	0.000477	0.865828	0.000035	*
AGE	0.0836	0.00636	13.14465	0.007127	
AGE2	-0.0007	0.000075	-9.33333	-0.00006	
MARRIED	1.8022	0.0354	50.9096	0.153635	
WIDOWED	0.6659	0.0556	11.97662	0.056767	
DIVORCED	0.8062	0.0854	9.440281	0.068727	
IMMIG	-0.8637	0.0638	-13.5376	-0.07363	

* Statistically Insignificant at 99% confidence level.

The effect of age on an individual's propensity to become an employer is similar for both sexes. Such propensity, in general, is increasing with age. This reflects that experience and the accumulation of capital are the crucial factors to determine one's tendency to be an employer. For the effect of marital status, we find that regardless of one's sex, a married person has a higher probability to become an employer. This can be well-explained by the fact that risk factor is one of the key determinants in the decision to start his/her own business. For a married person, the income or potential income of his spouse can serve as an insurance to stabilise the total household income. Hence such risk sharing function of family increases a married person's tendency to start business.

Comparing residents with immigrants, we find that immigrants possessed a lower tendency to become employers as compared to residents. In 1981, the probability for male immigrants to become employers was 10.6 percentage points lower than that of male residents. In 1986, such probability for male immigrants was 9.8 percentage points higher than that of male residents. For female immigrants in 1981 and 1986, the probability to become employers was 7.1 percentage points and 7.4 percentage points respectively lower than female residents. This suggests that although immigrants should be more willing to accept risk, the availability of fundings is a more crucial determinant of the tendency to become employers. It is

worth noting that "immigrants" here refer to the new immigrants arrived for less than five years. Thus, the shortage of working experience in Hong Kong also discouraged immigrants to start their own business. In Section 4.2, we find that the propensities of female immigrants in 1981 and 1986 to become employers were apparently different to each other. However, such difference disappeared after accounting for the effect of schooling, age and marital status.

To conclude, the lack of source of fundings and experience in Hong Kong is the main reason for immigrants not becoming employers during a short period of time following their arrivals to the host country. This suggests that even if immigrants are more willing to take risk, they have to take a longer period of time in the host country in order to start their own business. Moreover, the selectivity difference for the immigrants in 1981 and in 1986 played no significant role in determining one's tendency to become an employer within their first five years in Hong Kong. If the selectivity difference is a determinant of such tendency, it can only be revealed after a longer period of time.

CHAPTER V: SUMMARY AND CONCLUSION

The labour market behaviour of those immigrants from China, staying in Hong Kong for no more than five years, was significantly different from that of residents. The major source of difference between the employment pattern of new immigrants and residents was the different qualities of human capital and the different levels of wealth.

The difference between immigrants and residents was especially significant for those economic immigrants in 1981, as compared with the legal family reunion immigrants in 1986. Under different screening mechanisms, the employment pattern of immigrants in 1981 and in 1986 was different to each other.

5.1 The Earnings Of Immigrants

The earnings of immigrants were apparently lower than residents. The earnings differential between immigrants and residents was originated from the different qualities of education and the imperfect transferability of human capital across locations. After accounting for these factors, earnings of immigrants were found to be higher than that of residents. This was probably due to economic motivations and wealth effects. This means that immigrants were lack of other sources of income as compared to residents, thus immigrants were more hard working or supplied more labour, hence receiving higher earnings.

5.2 The Labour Force Participation Rate And Unemployment Rate Of Immigrants

The labour force participation rate of immigrants was particularly higher than that of residents. This was due to the aforementioned economic motivations and wealth effects. Thus, the reservation wage of immigrants was lower than that of residents, who were more likely to possess other sources of income. In 1981, reservation wage of immigrants was particularly lower than that of residents, while such difference was narrower in 1986. This resulted in a larger residents-immigrants difference in labour force participation rate in 1981, as compared with that in 1986.

Unemployment rate of immigrants in 1981 was significantly lower than that of residents. In 1986 such difference was not significant. This suggests that economic immigrants in 1981 were more dependent on employment earnings, as compared with the legal family reunion immigrants in 1986. Thus, their job separation rate was particularly lower than residents, resulting in a lower unemployment rate.

5.3 The Propensity To Start One's Own Business

The propensity of an immigrant to start his own business was significantly lower than residents. This was due to the fact that immigrants were lack of sources of fundings and working experience in Hong Kong. Moreover, the selectivity difference between the immigrants in 1981

and those in 1986 played no significant role in determining one's tendency to become an employer during their first five years in Hong Kong.

APPENDIX

Assignment of year of schooling corresponding to each level of educational level

Year of schooling	The corresponding educational level
0	No schooling or kindergarten
4	Lower primary (P1 to P4)
6	Upper primary (P5 to P6)
7-9	Lower secondary (Form 1 to Form 3)
10-11	Upper secondary (Form 4 to Form 5)
12.5	Matriculation (Form 6 to Form 7)
11	Craft course in Technical Institutes
13	Certificate/Diploma courses in Technical Institutes/Polytechnics
16	Higher Diploma/Endorsement Certificate Courses in Technical Institutes/Polytechnics
17	Associateship or equivalent courses in Polytechnics
16	Non-degree courses in post-secondary colleges and HK Baptist College
13	Diploma courses in Colleges of Education or Technical Teacher's College
13.5	Nurse training courses
16	Hong Kong first degree courses
16	Overseas first degree courses
18	Post-graduate courses

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